

2902076-1_ST25.txt
SEQUENCE LISTING

<110> The University of York

<120> Expansion Polypeptides

<130> 2902076.1

<140> 10/573,245

<141> 2006-03-23

<150> PCT/GB04/04058

<151> 2004-08-23

<160> 24

<170> PatentIn version 3.4

<210> 1

<211> 783

<212> DNA

<213> Craterostigma plantagineum

<220>

<221> CDS

<222> (1)..(783)

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acc agc agc agc cat ttt gcg cgc gcg tat tat ggc ggc gat ggc ggc 96
Thr Ser Ser Ser His Phe Ala Arg Ala Tyr Tyr Gly Gly Asp Gly Gly
20 25 30

tgg acc gat gcg cat gcg acc ttt tat ggc ggc agc gat gcg agc ggc 144
Trp Thr Asp Ala His Ala Thr Phe Tyr Gly Ser Asp Ala Ser Gly
35 40 45

acc atg ggc ggc gcg tgc ggc tat ggc aac ctg tat agc cag ggc tat 192
Thr Met Gly Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser Gln Gly Tyr
50 55 60

ggc acc aac acc gcg gcg ctg agc acc gcg ctg ttt aac aac ggc ctg 240
Gly Thr Asn Thr Ala Ala Leu Ser Thr Ala Leu Phe Asn Asn Gly Leu
65 70 75 80

agc tgc ggc agc tgc ttt gaa att aaa tgc gcg agc agc att agc ggc 288
Ser Cys Gly Ser Cys Phe Glu Ile Lys Cys Ala Ser Ser Ile Ser Gly
85 90 95

ggc ggc aaa tgg tgc ctg ccg ggc ggc agc att acc gtg acc gcg acc 336
Gly Gly Lys Trp Cys Leu Pro Gly Gly Ser Ile Thr Val Thr Ala Thr
100 105 110

aac ttt tgc ccg ccg aac aac gcg ctg ccg aac aac gcg ggc ggc tgg 384
Asn Phe Cys Pro Pro Asn Asn Ala Leu Pro Asn Asn Ala Gly Gly Trp
115 120 125

tgc aac ccg ccg ctg cag cat ttt gat ctg agc cag ccg gtg ttt cag 432
Cys Asn Pro Pro Leu Gln His Phe Asp Leu Ser Gln Pro Val Phe Gln

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130	135	140	
cat att gcg cag tat cgc gcg ggc att gtg ccg gtg agc tat cgc cgc His Ile Ala Gln Tyr Arg Ala Gly Ile Val Pro Val Ser Tyr Arg Arg			480
145	150	155	160
gtg ccg tgc cgc cgc cgc ggc att cgc ttt acc att aac ggc cat Val Pro Cys Arg Arg Arg Gly Gly Ile Arg Phe Thr Ile Asn Gly His			528
165	170	175	
agc tat ttt aac ctg gtg ctg att acc aac gtg ggc ggc gcg ggc gat Ser Tyr Phe Asn Leu Val Leu Ile Thr Asn Val Gly Gly Ala Gly Asp			576
180	185	190	
gtg cat gcg gtg agc att aaa ggc gcg acc acc gat tgg cag ccg atg Val His Ala Val Ser Ile Lys Gly Ala Thr Thr Asp Trp Gln Pro Met			624
195	200	205	
agc cgc aac tgg ggc cag aac tgg cag agc aac gcg aac ccg aac ggc Ser Arg Asn Trp Gly Gln Asn Trp Gln Ser Asn Ala Asn Pro Asn Gly			672
210	215	220	
cag cgc ctg agc ttt aaa gtg acc acc agc gat ggc cgc acc ctg gtg Gln Arg Leu Ser Phe Lys Val Thr Thr Ser Asp Gly Arg Thr Leu Val			720
225	230	235	240
agc aac aac gtg gcg ccg ccg aac tgg agc ttt ggc cag acc ttt gcg Ser Asn Asn Val Ala Pro Pro Asn Trp Ser Phe Gly Gln Thr Phe Ala			768
245	250	255	
ggc gcg cag ttt aac Gly Ala Gln Phe Asn			783
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<210> 2
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<212> PRT
<213> Craterostigma plantagineum

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Met Ala Phe Leu Gly Arg Ile Ile Ile Phe Ala Thr Phe Leu Ala Ile
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Thr Ser Ser Ser His Phe Ala Arg Ala Tyr Tyr Gly Gly Asp Gly Gly
20 25 30

Trp Thr Asp Ala His Ala Thr Phe Tyr Gly Gly Ser Asp Ala Ser Gly
35 40 45

Thr Met Gly Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser Gln Gly Tyr
50 55 60

Gly Thr Asn Thr Ala Ala Leu Ser Thr Ala Leu Phe Asn Asn Gly Leu
65 70 75 80

Ser Cys Gly Ser Cys Phe Glu Ile Lys Cys Ala Ser Ser Ile Ser Gly
Page 2

Gly Gly Lys Trp Cys Leu Pro Gly Gly Ser Ile Thr Val Thr Ala Thr
 100 105 110

Asn Phe Cys Pro Pro Asn Asn Ala Leu Pro Asn Asn Ala Gly Gly Trp
 115 120 125

Cys Asn Pro Pro Leu Gln His Phe Asp Leu Ser Gln Pro Val Phe Gln
 130 135 140

His Ile Ala Gln Tyr Arg Ala Gly Ile Val Pro Val Ser Tyr Arg Arg
 145 150 155 160

Val Pro Cys Arg Arg Gly Gly Ile Arg Phe Thr Ile Asn Gly His
 165 170 175

Ser Tyr Phe Asn Leu Val Leu Ile Thr Asn Val Gly Gly Ala Gly Asp
 180 185 190

Val His Ala Val Ser Ile Lys Gly Ala Thr Thr Asp Trp Gln Pro Met
 195 200 205

Ser Arg Asn Trp Gly Gln Asn Trp Gln Ser Asn Ala Asn Pro Asn Gly
 210 215 220

Gln Arg Leu Ser Phe Lys Val Thr Thr Ser Asp Gly Arg Thr Leu Val
 225 230 235 240

Ser Asn Asn Val Ala Pro Pro Asn Trp Ser Phe Gly Gln Thr Phe Ala
 245 250 255

Gly Ala Gln Phe Asn
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 <213> Craterostigma plantagineum

<220>
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 <222> (1)..(657)

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 Ala Thr Phe Tyr Gly Gly Asp Ala Ser Gly Thr Met Gly Gly Ala
 1 5 10 15

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Cys	Gly	Tyr	Gly	Asn	Leu	Tyr	Ser	Thr	Gly	Tyr	Gly	Thr	Asn	Thr	Ala	
20								25					30			
gcg	ctg	agc	acc	gcg	ctg	ttt	aac	aac	ggc	ctg	acc	tgc	ggc	gcg	tgc	144
Ala	Leu	Ser	Thr	Ala	Leu	Phe	Asn	Asn	Gly	Leu	Thr	Cys	Gly	Ala	Cys	
35							40					45				
tat	gaa	ctg	acc	tgc	aac	aac	gat	ccg	cgc	ggc	tgg	tgc	ctg	agc	ggc	192
Tyr	Glu	Leu	Thr	Cys	Asn	Asn	Asp	Pro	Arg	Gly	Trp	Cys	Leu	Ser	Gly	
50							55				60					
acc	att	atg	gtg	acc	gcg	acc	aac	ttt	tgc	ccg	ccg	aac	ccg	agc	ctg	240
Thr	Ile	Met	Val	Thr	Ala	Thr	Asn	Phe	Cys	Pro	Pro	Asn	Pro	Ser	Leu	
65							70			75			80			
ccg	aac	gat	aac	ggc	ggc	tgg	tgc	aac	ccg	ccg	cgc	cag	cat	ttt	gat	288
Pro	Asn	Asp	Asn	Gly	Gly	Trp	Cys	Asn	Pro	Pro	Arg	Gln	His	Phe	Asp	
85							90					95				
ctg	gcg	gaa	ccg	gcg	ttt	ctg	cag	att	gcg	cag	tat	aaa	gcg	ggc	att	336
Leu	Ala	Glu	Pro	Ala	Phe	Leu	Gln	Ile	Ala	Gln	Tyr	Lys	Ala	Gly	Ile	
100							105					110				
gtg	ccg	gtg	aac	tat	cgc	cgc	gtg	ccg	tgc	cag	aaa	aaa	ggc	ggc	att	384
Val	Pro	Val	Asn	Tyr	Arg	Arg	Val	Pro	Cys	Gln	Lys	Lys	Gly	Gly	Ile	
115							120				125					
cgc	ttt	acc	att	aac	ggc	cat	agc	ttt	ttt	aac	ctg	gtg	ctg	gtg	acc	432
Arg	Phe	Thr	Ile	Asn	Gly	His	Ser	Phe	Phe	Asn	Leu	Val	Leu	Val	Thr	
130							135				140					
aac	gtg	ggc	ggc	gtg	ggc	gat	gtg	cat	agc	gtg	agc	att	aaa	ggc	agc	480
Asn	Val	Gly	Gly	Val	Gly	Asp	Val	His	Ser	Val	Ser	Ile	Lys	Gly	Ser	
145							150				155			160		
aac	ggc	ggc	tgg	cag	ccg	ctg	agc	cgc	aac	tgg	ggc	cag	aac	tgg	cag	528
Asn	Gly	Gly	Trp	Gln	Pro	Leu	Ser	Arg	Asn	Trp	Gly	Gln	Asn	Trp	Gln	
165							170					175				
agc	aac	agc	tat	ctg	aac	ggc	cag	agc	ctg	agc	ttt	cag	gtg	acc	acc	576
Ser	Asn	Ser	Tyr	Leu	Asn	Gly	Gln	Ser	Leu	Ser	Phe	Gln	Val	Thr	Thr	
180							185					190				
agc	gat	ggc	cgc	acc	gtg	acc	agc	tat	gat	gtg	gcg	ccg	cgc	ggc	tgg	624
Ser	Asp	Gly	Arg	Thr	Val	Thr	Ser	Tyr	Asp	Val	Ala	Pro	Arg	Gly	Trp	
195							200					205				
cag	ttt	ggc	cag	acc	ttt	gaa	ggc	ggc	cag	ttt						657
Gln	Phe	Gly	Gln	Thr	Phe	Glu	Gly	Gly	Gln	Phe						
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<211> 219
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<213> Craterostigma plantagineum

<400> 4

Ala Thr Phe Tyr Gly Gly Asp Ala Ser Gly Thr Met Gly Gly Ala
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2902076-1_ST25.txt

Cys Gly Tyr Gly Asn Leu Tyr Ser Thr Gly Tyr Gly Thr Asn Thr Ala
20 25 30

Ala Leu Ser Thr Ala Leu Phe Asn Asn Gly Leu Thr Cys Gly Ala Cys
35 40 45

Tyr Glu Leu Thr Cys Asn Asn Asp Pro Arg Gly Trp Cys Leu Ser Gly
50 55 60

Thr Ile Met Val Thr Ala Thr Asn Phe Cys Pro Pro Asn Pro Ser Leu
65 70 75 80

Pro Asn Asp Asn Gly Gly Trp Cys Asn Pro Pro Arg Gln His Phe Asp
85 90 95

Leu Ala Glu Pro Ala Phe Leu Gln Ile Ala Gln Tyr Lys Ala Gly Ile
100 105 110

Val Pro Val Asn Tyr Arg Arg Val Pro Cys Gln Lys Lys Gly Gly Ile
115 120 125

Arg Phe Thr Ile Asn Gly His Ser Phe Phe Asn Leu Val Leu Val Thr
130 135 140

Asn Val Gly Gly Val Gly Asp Val His Ser Val Ser Ile Lys Gly Ser
145 150 155 160

Asn Gly Gly Trp Gln Pro Leu Ser Arg Asn Trp Gly Gln Asn Trp Gln
165 170 175

Ser Asn Ser Tyr Leu Asn Gly Gln Ser Leu Ser Phe Gln Val Thr Thr
180 185 190

Ser Asp Gly Arg Thr Val Thr Ser Tyr Asp Val Ala Pro Arg Gly Trp
195 200 205

Gln Phe Gly Gln Thr Phe Glu Gly Gly Gln Phe
210 215

<210> 5
<211> 672
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<213> Craterostigma plantagineum

<220>
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<222> (1)..(672)

<400> 5

2902076-1_ST25.txt

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ggc gcg tgc ggc tat ggc aac ctg tat agc cag ggc tat ggc acc aac Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser Gln Gly Tyr Gly Thr Asn 20 25 30	96
acc gcg gcg ctg agc acc acc ctg ttt aac aac ggc ctg gcg tgc ggc Thr Ala Ala Leu Ser Thr Thr Leu Phe Asn Asn Gly Leu Ala Cys Gly 35 40 45	144
agc tgc tat cag gtg cgc tgc gaa ggc ggc ccg aaa tgg tgc gtg cgc Ser Cys Tyr Gln Val Arg Cys Glu Gly Gly Pro Lys Trp Cys Val Arg 50 55 60	192
ggc ggc gat cgc att att acc gtg acc gcg acc aac ttt tgc ccg ccg Gly Gly Asp Arg Ile Ile Thr Val Thr Ala Thr Asn Phe Cys Pro Pro 65 70 75 80	240
aac tat gcg ctg gcg aac gat aac ggc ggc tgg tgc aac ccg ccg cgc Asn Tyr Ala Leu Ala Asn Asp Asn Gly Gly Trp Cys Asn Pro Pro Arg 85 90 95	288
cag cat ttt gat atg gcg cag ccg gcg ttt gtg cgc att gcg cat tat Gln His Phe Asp Met Ala Gln Pro Ala Phe Val Arg Ile Ala His Tyr 100 105 110	336
cgc gcg ggc att gtg ccg att agc tat cgc cgc gtg agc tgc gtg aaa Arg Ala Gly Ile Val Pro Ile Ser Tyr Arg Arg Val Ser Cys Val Lys 115 120 125	384
aaa ggc ggc att cgc ctg acc att aac ggc cat agc tat ttt aac ctg Lys Gly Gly Ile Arg Leu Thr Ile Asn Gly His Ser Tyr Phe Asn Leu 130 135 140	432
gtg ctg gtg agc aac gtg ggc ggc agc ggc gat gtg cat gcg gtg tgg Val Leu Val Ser Asn Val Gly Gly Ser Gly Asp Val His Ala Val Trp 145 150 155 160	480
att aaa ggc agc ggc ggc ccg tgg cag gcg atg acc cgc aac tgg Ile Lys Gly Ser Gly Gly Pro Trp Gln Ala Met Thr Arg Asn Trp 165 170 175	528
ggc cag aac tgg cag agc aac agc tat ctg gat ggc cag agc ctg agc Gly Gln Asn Trp Gln Ser Asn Ser Tyr Leu Asp Gly Gln Ser Leu Ser 180 185 190	576
ttt att gtg cgc gcg ggc gat ggc cgc acc gtg acc gcg aac gab att Phe Ile Val Arg Ala Gly Asp Gly Arg Thr Val Thr Ala Asn Xaa Ile 195 200 205	624
gtg ccg cgc ggc tgg cag ttt ggc cag acc ttt gaa ggc ccg cag ttt Val Pro Arg Gly Trp Gln Phe Gly Gln Thr Phe Glu Gly Pro Gln Phe 210 215 220	672

<210> 6
<211> 224
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<213> Craterostigma plantagineum

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2902076-1_ST25.txt

<221> misc_feature

<222> (207)..(207)

<223> The 'xaa' at location 207 stands for Glu, or Asp.

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Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser Gln Gly Tyr Gly Thr Asn
20 25 30

Thr Ala Ala Leu Ser Thr Thr Leu Phe Asn Asn Gly Leu Ala Cys Gly
35 40 45

Ser Cys Tyr Gln Val Arg Cys Glu Gly Gly Pro Lys Trp Cys Val Arg
50 55 60

Gly Gly Asp Arg Ile Ile Thr Val Thr Ala Thr Asn Phe Cys Pro Pro
65 70 75 80

Asn Tyr Ala Leu Ala Asn Asp Asn Gly Gly Trp Cys Asn Pro Pro Arg
85 90 95

Gln His Phe Asp Met Ala Gln Pro Ala Phe Val Arg Ile Ala His Tyr
100 105 110

Arg Ala Gly Ile Val Pro Ile Ser Tyr Arg Arg Val Ser Cys Val Lys
115 120 125

Lys Gly Gly Ile Arg Leu Thr Ile Asn Gly His Ser Tyr Phe Asn Leu
130 135 140

Val Leu Val Ser Asn Val Gly Gly Ser Gly Asp Val His Ala Val Trp
145 150 155 160

Ile Lys Gly Ser Gly Gly Pro Trp Gln Ala Met Thr Arg Asn Trp
165 170 175

Gly Gln Asn Trp Gln Ser Asn Ser Tyr Leu Asp Gly Gln Ser Leu Ser
180 185 190

Phe Ile Val Arg Ala Gly Asp Gly Arg Thr Val Thr Ala Asn xaa Ile
195 200 205

Val Pro Arg Gly Trp Gln Phe Gly Gln Thr Phe Glu Gly Pro Gln Phe
210 215 220

<210> 7